

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A system  $[(1)]$  for damping thermo-acoustic instability in a combustor device  $[(2)]$  for a gas turbine, the combustor device comprising at least one combustion chamber  $[(4)]$  and at least one burner  $[(7)]$  associated to said combustion chamber and mounted in a position corresponding to a front portion set upstream  $[(8)]$  of the combustion chamber; the damping system comprising at least one Helmholtz resonator  $[(12)]$ , in turn comprising a casing  $[(13)]$  defining inside it a pre-set volume  $[(14)]$  and a neck  $[(15)]$  for hydraulic connection between said pre-set volume  $[(14)]$  and said combustion chamber  $[(4)]$ ; said system being characterized in that said neck  $[(15)]$  is connected to one side of said combustion chamber  $[(4)]$  distant from said front upstream portion  $[(8)]$  thereof provided with said at least one burner  $[(7)]$ .

2. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 1, characterized in that said combustion chamber  $[(4)]$  is of an annular type, said at least one resonator  $[(12)]$  being set in a circumferential position about said combustion chamber, housed within an air case  $[(16)]$  for delivery of air for supporting combustion set outside an annular body  $[(10)]$  delimiting said combustion chamber.

3. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 2, characterized in that said casing  $[(13)]$  of the resonator comprises means  $[(18)]$  for delivery of a cooling fluid.

4. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 3, characterized in that said means for delivery of a cooling fluid consist of a plurality of holes  $[(18)]$  of a pre-set diameter made through the casing  $[(13)]$  of the resonator and designed to enable passage of part of said air for supporting combustion towards said combustion chamber  $[(4)]$  directly through said pre-set volume and said neck of the resonator  $[(12)]$ .

5. (Currently Amended) The system [(1)] for damping thermo-acoustic instability according to Claim 4, characterized in that said holes are made only through an end plate [(20)] of said casing of the resonator, facing the side opposite to said combustion chamber [(4)], and are arranged in positions asymmetrical to one another.

6. (Currently Amended) The system [(1)] for damping thermo-acoustic instability according to Claim 2 ~~any one of Claims 2 to 5~~, characterized in that said casing [(13)] of the resonator comprises means for selectively varying said pre-set volume [(14)] within a pre-set range.

7. (Currently Amended) The system [(1)] for damping thermo-acoustic instability according to Claim 6, characterized in that said casing [(13)] of the resonator comprises two cup-shaped tubular bodies [(21, 22)], which are mounted in a telescopic way co-axially on one another, with respective concavities facing one another, by means of a threaded coupling [(23)]; and a threaded fixing ring-nut [(24)], which is coupled outside on one first [(22)] of said cup-shaped tubular bodies provided, in a single piece, with said neck [(15)] and is designed to bear axially upon one second [(21)] of said cup-shaped tubular bodies, screwed outside on the former one on the side opposite to said combustion chamber.

8. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 2 ~~any one of Claims 2 to 7~~, characterized in that said casing  $[(13)]$  and said neck  $[(15)]$  of said at least one resonator have a cylindrical symmetry and are arranged with respective axes of symmetry  $[(B)]$  thereof parallel to one another and oriented to form a pre-set angle with a direction of flow  $[(6)]$  of burnt gases that traverse said combustion chamber.

9. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 8, characterized in that said pre-set angle is substantially of  $90^\circ$ .

10. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 8 ~~either Claim 8 or Claim 9~~, characterized in that it comprises more than one of said Helmholtz resonators  $[(12)]$ , said combustor comprising more than one of said burners  $[(7)]$ ; said resonators  $[(12)]$  being mounted circumferentially in a ring, in cantilever fashion on said annular body  $[(10)]$  delimiting said combustion chamber  $[(4)]$ , in positions asymmetrical with respect to one another, both in a radial direction and in the axial direction with reference to an axis of symmetry  $[(A)]$  of said annular combustion chamber, and with the respective necks  $[(15)]$  hydraulically connected to a downstream portion  $[(5)]$  of said combustion chamber.